



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/655,028

09/05/2003

Paul L. Camwell

A891743US

6038

37047

7590

07/26/2006

GOWLING LAFLEUR HENDERSON LLP
SUITE 1400, 700 2ND ST. SW
CALGARY, AB T2P 4V5
CANADA

EXAMINER

CAVALLARI, DANIEL J

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/655,028	Applicant(s) CAMWELL ET AL.	
	Examiner Daniel J. Cavallari	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The examiner acknowledges a submission of the amendment filed on 5/2/2006. The changes to drawings and amendments to claims 1-3, 5 and new claims 17 & 18 are accepted.

Response to Arguments

Applicant's arguments, see pages 9-12, filed 5/2/2006, with respect to the 112 first paragraph rejection of claims 1-16 have been fully considered and are persuasive. The 112 first paragraph rejection of claims 1-16 has been withdrawn.

The previously made objection to claim 5 has been withdrawn in view of the amendments.

The previously made objection to the drawings is upheld and restated below. The applicant has failed to adequately label the drawings.

Drawings

The drawings are objected to for the following reasons:

- Figures 1-7 fail to adequately label the components with proper identifiers.

Because the drawings use symbols not representative of the components, the

Art Unit: 2836

components should be given descriptive labels as well as a number in order to easily identify the components.

Appropriate action is required.

Claim Objections

Claim 1 recites the limitation "the plug isolation means" and "the socket isolation means" however a "plug isolation means" is not previously disclosed. The examiner notes that an "electronic isolation means" has been disclosed as coupled to a "first plug contact" and a "socket contact" making it confusing as to what exactly is being referenced as "the plug isolation means" and the "socket isolation means". There is insufficient antecedent basis for this limitation in the claim.

The claims will be examined as best understood to mean "One of the electronic isolation means activated only when..."

Claim 5 recites the limitation "the electrical isolation" however "electrical isolation" is not previously disclosed. The examiner notes that "electronic isolation means" has been disclosed however this is insufficient to enable the use of "the electrical isolation". There is insufficient antecedent basis for this limitation in the claim.

The claims will be examined as best understood to mean "...a time delay circuit that maintains electrical isolation between the plug and socket..."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 & 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahasi (US 6,192,435 B1).

Takahasi teaches:

In regard to Claim 1

- A multi-conductor plug (30) and socket (20) means (See Figure 2) having a plug and socket, each with a plurality of contacts, read on by the female and male pins (See Column 4, Line 65 to Column 5, Line 9).
- A first plug (30) contact of said plug contacts electrically connected to a first simple electronic device, read on by resistor (R1) and another electrical contact electrically coupled to an isolation means, read on by switch (10), which is activated upon full engagement of the plug and socket arrangement (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).
- Said socket contacts electrically coupled to a second simple electronic device, read on by power source (V), and at least one other contact electronically coupled to an electronic isolation means, read on by switch (SW1) which is

activated upon full engagement of the plug and socket arrangement (See Column 9, Lines 53-67).

- The isolation means coupled with the plug activated only when the second simple electronic device is detected by full engagement permitting current flow from the contacts (See Column 4, Lines 43-50 & Column 7, Line 56 to Column 8, Line 58).

In regard to Claim 2

- A pair of plug (30) contacts, read on by the upper and lower contact in Figure 2, coupled via a simple electronic device, read on by resistor (R2) wherein the isolation means coupled with the plug is activated only when the second simple electronic device is detected by full engagement permitting current flow from the contacts (See Column 4, Lines 43-50 & Column 7, Line 56 to Column 8, Line 58) (See Figure 2).
- A pair of socket contacts, read on by the upper most and bottom most contacts in Figure 2, electrically coupled via an electronic isolation means (SW1) which is activated upon full engagement of the plug and socket arrangement (See Column 9, Lines 53-67), as is the case when the socket and plug are connected (See Figure 2).

Art Unit: 2836

In regard to Claim 3

- A multi-conductor plug (30) and socket (20) (See Figure 2) having a plug and socket, each with a plurality of contacts, read on by the female and male pins (See Column 4, Line 65 to Column 5, Line 9) comprising a pair of socket contacts, read on by the upper two pins (See Figure 2) coupled to a simple electronic device, read on by voltage source (V) and resistor (R2), as is the case when the plug and socket are connected.
- A pair of plug contacts, read on by the upper two pins of plug (30) (See Figure 2), electrically attached to electronic isolation means (10) which is only activated when current is detected in the simple electronic device upon full engagement of the plug and socket, wherein current is detected in the voltage source (V) via the resistor (R2) (See Figure 2 & See Column 4, Lines 43-50 & Column 7, Line 56 to Column 8, Line 58).

In regard to Claim 4

- The plug and socket each comprise fixed diameter barrel-style coaxial bodies, read on by the male and female pin connectors (See Column 4, Line 65 to Column 5, Line 9).

In regard to Claim 5

- The isolation means incorporates a time delay circuit, read on by resistor (R1) and capacitor (C1), that maintains electrical isolation between the plug and

Art Unit: 2836

socket for a fixed period of time (See Figure 2 & Column 8, Line 11 Column 9, Line 32).

In regard to Claim 17

- The plug and socket each comprise fixed diameter barrel-style coaxial bodies, read on by the male and female pin connectors (See Column 4, Line 65 to Column 5, Line 9).
- The isolation means incorporates a time delay circuit, read on by resistor (R1) and capacitor (C1), that maintains electrical isolation between the plug and socket for a fixed period of time (See Figure 2 & Column 8, Line 11 Column 9, Line 32).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6- 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahasi and Wood (US 5,726,506).

In regard to Claims 1 & 18

Takahasi teaches:

- A multi-conductor plug (30) and socket (20) (See Figure 2) having a plug and socket, each with a plurality of contacts, read on by the female and male pins (See Column 4, Line 65 to Column 5, Line 9) comprising a pair of socket contacts, read on by the upper two pins (See Figure 2) coupled to electronic devices, read on by voltage source (V) and resistor (R2), as is the case when the plug and socket are connected.
- A pair of plug contacts, read on by the upper two pins of plug (30) (See Figure 2), electrically attached to electronic isolation means (10) which is only activated when current is detected in the simple electronic device upon full engagement of the plug and socket, wherein current is detected in the voltage source (V) via the resistor (R2) (See Figure 2 & See Column 4, Lines 43-50 & Column 7, Line 56 to Column 8, Line 58).

Takahasi fails to teach the plug and socket attached to diodes. However, Wood teaches a connector arrangement in which the power supply (PS) and load side (LOAD) each comprise protective diodes (See Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate power supply side (socket side) and load side (plug side) diodes on the power supply line and load lines of the plug and socket connector taught by Takahasi whereby activation of the isolation means (10) is detected in the simple electronic device via the resistor (R2) (See Figure 2 & See Column 4, Lines 43-50 & Column 7, Line 56 to Column 8, Line 58). The motivation

would have been to protect the circuits against reverse current (See Column 4, Lines 54-64).

In regard to Claims 6, 11, 14, & 15

Takahasi teaches:

- A multi-conductor plug (30) and socket (20) means (See Figure 2) having a plug and socket, each with a plurality of contacts, read on by the female and male pins (See Column 4, Line 65 to Column 5, Line 9).
- Said plug means (30) having at least three electrically conducting plug contacts (See Figure 2).
- Said socket means having a corresponding number of electrically conductive socket means (See Figure 2).
- Isolation means, read on by switch (10), which is activated upon full engagement of the plug and socket arrangement thereby enabling electrical communication upon proper engagement of the plug and socket means (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).

Takahasi fails to teach plug and socket current direction-limiting means (diodes). However, Wood teaches a connector arrangement in which the power supply (PS) and load side (LOAD) each comprise protective diodes (See Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate power supply side (socket side) and load side

(plug side) diodes on the power supply line and load lines of the plug and socket connector taught by Takahasi. The motivation would have been to protect the circuits against reverse current (See Column 4, Lines 54-64).

Takahasi further teaches:

In regard to Claim 7

- The isolation means comprises plug-side circuit isolation means (10) only permitting flow of current to at least one remaining plug contact when current flow through the socket side is detected via resistor (R2) (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).

In regard to Claim 8

- Socket side isolation means (SW1) which is activated upon full engagement of the plug and socket arrangement (See Column 9, Lines 53-67), as is the case when the socket and plug are connected (See Figure 2) and only permitting flow of current to at least one remaining plug contact when current flow through the socket side is detected via resistor (R2).

In regard to Claim 9

- The isolation means comprises plug-side circuit isolation means (10) only permitting flow of current to at least one remaining plug contact when current flow

through the socket side is detected via resistor (R2) (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).

- Socket side isolation means (SW1) which is activated upon full engagement of the plug and socket arrangement (See Column 9, Lines 53-67), as is the case when the socket and plug are connected (See Figure 2) and only permitting flow of current to at least one remaining plug contact when current flow through the socket side is detected via resistor (R2).

In regard to Claim 10 & 16

- The isolation means incorporates a time delay circuit, read on by resistor (R1) and capacitor (C1), that maintains electrical isolation between the plug and socket for a fixed period of time (See Figure 2 & Column 8, Line 11 Column 9, Line 32).

In regard to Claim 12 & 13

- A multi-conductor plug (30) and socket (20) means (See Figure 2) having a plug and socket, each with a plurality of contacts, read on by the female and male pins (See Column 4, Line 65 to Column 5, Line 9).
- Said plug means (30) having first and second contacts, read on by the top most and bottom most contacts (See Figure 2).
- Said socket means having first and second contact, read on by the top most and bottom most contacts (See Figure 2) and configured to come into electrical

contact when the plug and socket are fully engaged (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).

- At least one additional plug and socket contact, read on by the middle two contacts which come into contact with each other when the plug means is fully engaged with the socket means (See Figure 2).
- Isolation means, read on by switch (10), which is activated upon full engagement of the plug and socket arrangement thereby enabling electrical communication upon proper engagement of the plug and socket means (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).

Takahasi fails to teach plug and socket current direction-limiting means (diodes). However, Wood teaches a connector arrangement in which the power supply (PS) and load side (LOAD) each comprise protective diodes (See Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate power supply side (socket side) and load side (plug side) diodes on the power supply line and load lines of the plug and socket connector taught by Takahasi. The motivation would have been to protect the circuits against reverse current (See Column 4, Lines 54-64).

Takahasi further teaches:

- The isolation means comprises plug-side circuit isolation means (10) only permitting flow of current to at least one remaining plug contact when current flow

through the socket side is detected via resistor (R2) (See Figure 2 & Column 7, Line 56 to Column 8, Line 10).

- Socket side isolation means (SW1) which is activated upon full engagement of the plug and socket arrangement (See Column 9, Lines 53-67), as is the case when the socket and plug are connected (See Figure 2) and only permitting flow of current to at least one remaining plug contact when current flow through the socket side is detected via resistor (R2).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Rice-McDonald (US 2003/0122428 A1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

July 17, 2006



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800